[7590-01-P]

NUCLEAR REGULATORY COMMISSION

[NRC-2020-0266]

Replacement Energy Cost Estimates for Nuclear Power Plants: 2020–2030

AGENCY: Nuclear Regulatory Commission.

ACTION: NUREG; issuance.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is issuing NUREG-2242, "Replacement Energy Cost Estimates for Nuclear Power Plants: 2020–2030." This report updates previous estimates of replacement energy costs for potential shutdowns of U.S. nuclear electricity-generating units due to a temporary power reactor outage to implement safety modifications or the loss of generation associated with a possible severe reactor accident. The final NUREG largely, is unchanged from the draft issued for public comment but has been revised to reflect the recent change to retirement dates for Byron Units 1 and 2, and Dresden Units 2 and 3.

DATES: NUREG-2242 is available on **[INSERT DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**.

ADDRESSES: Please refer to Docket ID **NRC-2020-0266** when contacting the NRC about the availability of information regarding this document. You may obtain publicly available information related to this document using any of the following methods:

- **Federal Rulemaking Website:** Go to https://www.regulations.gov and search for Docket ID **NRC-2020-0266**. Address questions about Docket IDs to Stacy Schumann; telephone: 301-415-0624; e-mail: Stacy.Schumann@nrc.gov. For technical questions, contact the individual listed in the **FOR FURTHER INFORMATION CONTACT** section of this document.

- **NRC's Agencywide Documents Access and Management System (ADAMS):** You may obtain publicly available documents online in the ADAMS Public Documents collection at https://www.nrc.gov/reading-rm/adams.html. To begin the search, select "Begin Web-based ADAMS Search." For problems with ADAMS, please

contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to pdr.resource@nrc.gov. The ADAMS accession number for each document referenced (if it is available in ADAMS) is provided the first time that it is mentioned in this document.

- **Attention**: The PDR, where you may examine and order copies of public documents, is currently closed. You may submit your request to the PDR via e-mail at pdr.resource@nrc.gov or call 1-800-397-4209 or 301-415-4737, between 8:00 a.m. and 4:00 p.m. (ET), Monday through Friday, except Federal holidays.

FOR FURTHER INFORMATION CONTACT: Pamela Noto, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; telephone: 301-415-6795, e-mail: Pamela.Noto@nrc.gov.

SUPPLEMENTARY INFORMATION:

I. Discussion

The NRC has developed new replacement energy cost estimates for both short and long-term nuclear power plant outages. This NUREG-2242, "Replacement Energy Cost Estimates for Nuclear Power Plants: 2020–2030" (ADAMS Accession No. ML21174A176), updates and replaces the replacement energy cost estimate information in NUREG/CR-4012, Volume 4, "Replacement Energy Costs for Nuclear Electricity-Generating Units in the United States: 1997-2001," and NUREG/CR-6080, "Replacement Energy, Capacity, and Reliability Costs for Permanent Nuclear Reactor Shutdowns" (ADAMS Accession Nos. ML20073J435 and ML20076F500).

This report provides replacement energy costs that have been estimated for the U.S. electricity wholesale market regions with nuclear electricity-generating units, over the 2020–2030 period. These estimates were developed to assist the NRC in evaluating proposed regulatory actions that (1) require safety modifications that might necessitate temporary reactor outages and (2) reduce the potential for extended outages resulting from a severe reactor accident. Estimates were calculated using ABB's PROMOD model and ICF's Integrated Planning Model for North America. The models simulate

dispatching a collection of generating units in merit order (i.e., lowest to highest incremental cost of dispatch) until the regional power demand is met. Each generating unit is characterized by the technology and fuel it uses to generate electricity, the unit's heat rate, and the variable and fixed costs incurred in owning and operating the unit. To estimate the replacement energy cost, the report models a Reference Case, in which all operational nuclear power plants are generating, and an Alternative Case, in which a nuclear generating unit is taken offline so that the next unit in merit order is dispatched to replace the lost generation. The difference in market clearing prices between the two cases is the replacement energy cost.

The resulting wholesale power price projections capture the dynamics and economics of the U.S. electricity markets that provide short and long-term replacement energy cost estimates on a market area basis. Factors that affect replacement energy costs include load growth, replacement sources of generation, fuel prices, air emission requirement outlooks and seasonal variations.

II. Public Outreach

Following development of the updated report, the NRC posted the draft NUREG-2242 to the Federal Rulemaking website at https://www.regulations.gov for a 60-day public comment period (85 FR 82528; December 18, 2020). The comment period closed on February 16, 2021. The NRC received no comments on the draft NUREG. The NRC staff held a Category 3 public meeting on November 18, 2020 to discuss the updated replacement energy cost estimates. The NRC presentation can be found in ADAMS under Accession No. ML20322A003, and the meeting summary can be found in ADAMS under Accession No. ML20336A181.

III. Backfitting, Forward Fitting, and Issue Finality

The NRC's issuance and use of this report do not constitute backfitting as that term is defined in Section 50.109 of title 10 of the *Code of Federal Regulations* (10 CFR), "Backfitting," and as described in NRC Management Directive (MD) 8.4, "Management of Backfitting, Forward Fitting, Issue Finality, and Information Requests";

do not affect the issue finality of an approval under 10 CFR Part 52, “Licenses, Certifications, and Approvals for Nuclear Power Plants” and do not constitute forward fitting as that term is defined and described in MD 8.4.

Dated: June 30, 2021.

For the Nuclear Regulatory Commission.

Kevin A. Coyne,

Deputy Director,

Division of Rulemaking, Environmental, and Financial Support.

[FR Doc. 2021-14364 Filed: 7/6/2021 8:45 am; Publication Date: 7/7/2021]